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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/905,000	07/13/2001	Masaaki Takagi	M1951-2	3447

7278 7590 09/29/2003

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EXAMINER

ELKASSABGI, HEBA

ART UNIT PAPER NUMBER

2834

DATE MAILED: 09/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/905,000	MASAAKI ET AL.	
	Examiner	Art Unit	
	Heba Elkassabgi	2834	14

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s) _____   |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Drawings***

The examiner withdraws the drawing objection in light of applicant's remarks to previous office action filed on 02/10/2003.

### ***Claim Rejections - 35 USC § 112***

The examiner withdraws the 35 USC § 112 rejections of claims 4, 6, 7, 9, and 12 due in light of applicants amendments to claims filed on 02/10/2003.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants Prior Art (APA) and further in view of Hayashi et al. (J.P. 0614515) and Nobuaki et al. (J.P. Patent Application 09-238400).

Applicants Prior Art discloses in Figure 5, a claw-pole permanent magnet stepping motor (100) of magnetic material, having a first case unit (112) aligned with a second case unit (113), a rotor (102) having at least two permanent magnets (102) with the first (112) and the second (113) case units having a shape supporting the rotor

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(102). Two arcuate sections on the first (112) and second (112) case units, with two-sidewall sections joining each respective arcuate section in a continuous flattened-oval section about the rotor (102). The arcuate sections each have a diameter (L1) and a ratio of total length (L2) to the diameter of at least 1:1 or 2:1. The wall sections having a planar shape and closer to the rotor (102) than the two arcuate sections, with the first case unit (112) having a flattened-oval cross-section. A bearing (115) in the first (112) and second (113) case unit, the rotor (102) is supported between the bearings (115) with a plurality of poles on the permanent magnets (103). A first (A) and second (B) phase inductor in the first (112) and second (113) unit case opposite each permanent magnets (103). The first (A) and second (B) phase inductors are symmetrical in the first case unit (112) and the first (A) and second (B) phase inductors from the magnetic plates, that a first (108) and a second (109) coil with a set of connectors. The first (112) and second (113) case units having a shape supporting the rotor (102); The first (A) and second (B) phase inductors are formed from at least two magnetic plates having multiple claw-poles and a first (108) and a second (109) coil with a set of connectors. The first (112) and second (113) case units having a diameter with a ratio of the length of at least 1:1 or 2:1. A securing section (114) detachably attached to an outside side surface of at least one of the first (112) and second (113) case unit. The securing section (114) containing an externally threaded section and fixed to an external attachment base of the claw-pole permanent magnet stepping motor (100). Each coil (108-109) includes a coil bobbin with an insulated copper wire wrapped around the coil bobbin. A connector to the coil bobbin includes a first and second collar. The connector

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disposed at one of the first and second collar orthogonal to the coil. The coil bobbin having a flat oval shape with arcuate sections. However Applicants prior art does not disclose casing units that are continuous in length and arcuate sections having a thickness different from the thickness of the wall sections.

Hayashi et al. Discloses in figure 8 a claw-pole stepping motor having a first and second casing (11), in which the first and second casing units (11) are continuous in length, which fully encloses the claw pole within the motor casing.

Nobuaki et al. discloses in Figure 4, two arcuate sections (9) each having a greater thickness than the two wall sections (9c-9b), in order to reduce the diameter of the rotor and the number of turns in the coil.

It would have been obvious to one of ordinary skill in the art to combine the casing of Hayashi et al. with applicant's prior art in order to fully enclose the claw pole within the casing and the reference of Nobuaki et al. with the applicant's prior art in order to reduce the diameter of the rotor and the number of turns in the coil.

In regards to Claims 6 and 7 the selection of a metal bearing, as a known material based upon its suitability for the intended use is a design consideration within the skill of the art. In re Leshin, 227 F.2d 197, 125 USPQ 416.

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**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heba Elkassabgi whose telephone number is (703) 305-2723. The examiner can normally be reached on M-Th (6:30-3:30), and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3431 for regular communications and (703) 305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

HYE

*Thomas M. Bradley*